



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,750	06/10/2005	Wolfgang Clemens	411000-122	6074

7590
Carella Byrne Bain Gilfillan
5 Becker Farm Road
Roseland, NJ 07068

10/12/2007

EXAMINER

HO, HOANG QUAN TRAN

ART UNIT	PAPER NUMBER
----------	--------------

2818

MAIL DATE	DELIVERY MODE
-----------	---------------

10/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,750

Applicant(s)

CLEMENS ET AL.

Examiner

Hoang-Quan Ho

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/4/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on June 4, 2007 was filed after the mailing date of the first Office Action on the merits. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Amendment

Applicant's amendment dated August 1, 2007 is acknowledged. Currently, claims 1 – 2, 4 – 7 and 9 are pending in light of the amendment, in which claims 1 – 2, 4 – 7 and 9 were amended, claims 3 and 8 were cancelled, no claim was withdrawn, and no claim was added have been entered of record.

Response to Arguments

Applicant's arguments filed August 1, 2007 is acknowledged and is responded as follows.

Applicant's arguments, see pgs. 4 – 9, with respect to the rejection of all pending claims have been fully considered and are persuasive in view of amendment. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made below.

Claim Objections

Claims 4 and 6 are objected to because of the following informalities: each claim contains improper dependency on claim 3, for which Applicant has cancelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Abkowitz et al. (U.S. Patent No. 5,856,013), hereinafter as Abkowitz.

Regarding claim 1, figs. 1 – 2 of Abkowitz teaches a substrate and/or underlayer (ref. no. 2) of an electronic component (as seen in figs.; col. 1, lines 45 – 49), which substrate or underlayer is to be coated with an organic functional layer (col. 1, lines 45 – 49; col. 11, line 56 through col. 12, line 5), wherein said substrate or underlayer comprises a biaxially stretched (well-ordered) plastic film (col. 11, line 58; Abkowitz teaches the substrate and/or underlayer is provided as a biaxially oriented sheets or webs, it is stretched and well ordered by such biaxial orientation) such the orderliness of the plastic film enables the application of the functional material thereto in the form of a

well-ordered layer to thereby increase the charge carrier mobility of the coated organic functional layer (inherent; see note 1 below).

Note 1: A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In essence, apparatus claims cover what a device is, not what a device does. See MPEP § 2114.

Regarding claim 5, Abkowitz teaches a method of increasing the charge carrier mobility of a conducting or semiconducting layer of organic material (col. 1, line 40 through col. 2, line 11), wherein the conducting or semiconducting layer is formed on an underlayer (col. 2, lines 4 – 11) comprising an oriented, biaxially stretched (well-ordered) plastic film (col. 11, line 58; Abkowitz teaches the underlayer is provided as a biaxially oriented sheets or webs, it is stretched and well ordered by such biaxial orientation).

Claims 1 – 2, 4 – 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (U.S. Patent App. Pub. No. 2001/0046081 A1), hereinafter as Hayashi.

Regarding claim 1, Hayashi teaches a substrate and/or underlayer (par. 0015 and 0134, such as polyethylene terephthalate PET) of an electronic component (par.

Art Unit: 2818

0015, display apparatus), which substrate or underlayer is to be coated with an organic functional layer (par. 0015 and 0023), wherein said substrate or underlayer comprises a biaxially stretched (well-ordered) plastic film (par. 0134 and 0480, Hayashi teaches the substrate and/or underlayer is provided as a biaxially oriented, therefore, it is stretched and well ordered by such biaxial orientation) such the orderliness of the plastic film enables the application of the functional material thereto in the form of a well-ordered layer to thereby increase the charge carrier mobility of the coated organic functional layer (inherent; see note 1 below).

Note 1: A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In essence, apparatus claims cover what a device is, not what a device does. See MPEP § 2114.

Regarding claim 2, Hayashi teaches a substrate as defined in claim 1, wherein the plastic film is at least partially crystalline (par. 0090 and 0124).

Regarding claim 4, Hayashi teaches a substrate as defined in claims 1-3, wherein the plastic film is selected from any one of the group consisting of isotactic polypropylene, polyamide, polyethylene, or polyethylene terephthalate (par. 0015 and 0134).

Regarding claim 5, Hayashi teaches a method of increasing the charge carrier mobility of a conducting or semiconducting layer of organic material (inherent; see note 1 below), wherein the conducting or semiconducting layer is formed on an underlayer (par. 0015 and 0134, such as polyethylene terephthalate PET) comprising an oriented, biaxially stretched (well-ordered) plastic film (par. 0134 and 0480, Hayashi teaches the underlayer is provided as a biaxially oriented, therefore, it is stretched and well ordered by such biaxial orientation).

Note 1: A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In essence, apparatus claims cover what a device is, not what a device does. See MPEP § 2114.

Hayashi teaches organic semiconductor transistors (par. 0148) are provided on the PET (par. 0015, 0023, and 0134). Because Applicant's claimed device is similarly structured to what Hayashi discloses, therefore would be inherent to have the properties that Applicant is claiming.

Regarding claim 6, Hayashi teaches an OFET (par. 0148) comprising an underlayer (par. 0015 and 0134, such as polyethylene terephthalate PET) and a semiconducting layer (par. 0148) on the underlayer (par. 0015, 0023, and 0134) according to any one of claims 1 to 3.

Regarding claim 7, Hayashi teaches an organic field effect transistor (OFET) (par. 0148) comprising a substrate or an underlayer (par. 0015 and 0134, such as polyethylene terephthalate PET) which comprises a biaxially stretched (well- ordered plastic film) (par. 0134 and 0480, Hayashi teaches the substrate or an underlayer is provided as a biaxially oriented, therefore, it is stretched and well ordered by such biaxial orientation) and above and on that substrate or underlayer (par. 0015, 0023, and 0134) a semiconducting layer of organic material (par. 0148), the semiconductor layer exhibiting a charge carrier mobility of $\mu > 10^{-3} \text{ cm}^2/\text{Vs}$ (inherent; see note 1 below).

Note 1: A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In essence, apparatus claims cover what a device is, not what a device does. See MPEP § 2114.

Hayashi teaches organic semiconductor transistors (par. 0148) are provided on the PET (par. 0015, 0023, and 0134). Because Applicant's claimed device is similarly structured to what Hayashi discloses, therefore would be inherent to have the properties that Applicant is claiming.

Regarding claim 9, Hayashi teaches an OFET (par. 0148) comprising an underlayer (par. 0015 and 0134, such as polyethylene terephthalate PET) and a semiconducting layer (par. 0148) on the underlayer according to claim 4 (par. 0015, 0023, and 0134).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

This action is a **final rejection** and is intended to close the prosecution of this application. Applicant's reply under 37 CFR 1.113 to this action is limited either to an appeal to the Board of Patent Appeals and Interferences or to an amendment complying with the requirements set forth below.

If applicant should desire to appeal any rejection made by the examiner, a Notice of Appeal must be filed within the period for reply identifying the rejected claim or claims appealed. The Notice of Appeal must be accompanied by the required appeal fee.

If applicant should desire to file an amendment, entry of a proposed amendment after final rejection cannot be made as a matter of right unless it merely cancels claims or complies with a formal requirement made earlier. Amendments touching the merits of the application which otherwise might not be proper may be admitted upon a showing a good and sufficient reasons why they are necessary and why they were not presented earlier.

A reply under 37 CFR 1.113 to a final rejection must include the appeal from, or cancellation of, each rejected claim. The filing of an amendment after final rejection, whether or not it is entered, does not stop the running of the statutory period for reply to the final rejection unless the examiner holds the claims to be in condition for allowance. Accordingly, if a Notice of Appeal has not been filed properly within the period for reply, or any extension of this period obtained under either 37 CFR 1.136(a) or (b), the application will become abandoned.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang-Quan Ho whose telephone number is (571) 272-8711. The examiner can normally be reached on Monday - Friday, 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on (571) 272-1657. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2818

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HQH/
Hoang-Quan Ho
Junior Examiner
October 3, 2007



Andy Hung
Primary Examiner